

**REMARKS**

In this Final Office Action, Claims 1-2 and 4-9 were rejected under 35 USC §112, first paragraph, as allegedly containing new matter. Claims 10 and 11 were rejected under 35 USC §102(b) as being anticipated by Schroeder et al. and claim 12 was indicated as containing allowable subject matter.

By this Amendment, claims 1 and 10, the only two independent claims have been revised, while claim 5 has been cancelled. Although the applicants do not agree that the subject "without decimation of non-duplicate vertices" constitutes new matter (as explained below), it has been deleted from claim 1 and replaced by the element of "splitting at least one triangle into two new elements." That same element has been added to independent claim 10.

As stated in the specification (page 13, lines 5-20), there are three alternate ways to deal with situations where removal of duplicate vertices is insufficient. Non-triangular elements could be introduced, existing vertices could be removed (which is equivalent to decimation), or existing triangles could be split into new elements. Since the present invention implements splitting of some of the triangles, it is clear that none of the non-duplicate vertices are being decimated. Decimation is meant to reduce the numbers of elements constituting the mesh, while the present invention introduces new elements where needed. The

decimation of vertices loses detail in the mesh surface, while the present invention creates more detail.

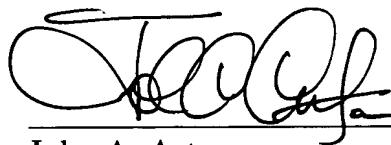
Since Schroeder et al. discloses the decimation of an existing, well defined mesh, it teaches away from the present invention. With the present invention which includes the splitting of some of the existing triangles into the two new triangles, poorly defined or "broken" meshes are fixed and improved.

Finally, in view of the Examiner's allowance of the subject matter of claim 12, it has been presented herewith as new independent claim 13. Claim 13 combines the subject matter of former claims 10, 11, and 12.

In view of the foregoing, it is submitted that all of the claims remaining in the case, namely claims 1-2, 4 and 6 and 6-13, are in proper form and are patentably distinguished from the prior art. Accordingly, allowance of these claims and passage of the application to issuance are respectfully solicited.

Respectfully submitted,

ARTZ & ARTZ



John A. Artz  
Registration No. 25,824  
28333 Telegraph Road, Suite 250  
Southfield, Michigan 48034  
Phone: (248) 223-9500  
Fax: (248) 223-9522

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